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# **Notice of Allowability**

**Application No.**

10/022,114

**Examiner**

Russell Frejd

**Applicant(s)**

MASSIE ET AL.

**Art Unit**

2128

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's Terminal Disclaimer received 24-June-2004.
2. ☒ The allowed claim(s) is/are 64-82.
3. ☒ The drawings filed on 16 November 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## **Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

*Russell Frejd*  
**RUSSELL FREJD**  
**PRIMARY EXAMINER**

In re Application of: MASSIE et al.

***Allowance of Application # 10/022,114***

1. The following communication is in response to applicant's Terminal Disclaimer, received 24-June-2004. This application is a CON of application 09/268,445, filed 12-March-1999, now U.S. Patent No. 6,405,158, which is a CON of 08/771,484, filed on 23-December-1996, now U.S. Patent No. 5,898,599, which is a CON of 08/130,639, filed 1-October-1993, now U.S. Patent No. 5,625,576.

***Examiner's Amendment***

2. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

3. In the Specification:

Page 1 In the section entitled *CROSS REFERENCE TO RELATED APPLICATIONS*

Line 1 Add --now U.S. Patent No. 6,405,158,-- after "March 12, 1999,".

***Reasons for Allowance***

4. The following is an Examiner's Statement of Reasons for the indication of allowable subject matter. The instant application is directed to alternative embodiments of the inventions described in U.S. Patents Nos. 6,405,158, 5,898,599, and 5,625, 576, each issued to Massie et

In re Application of: MASSIE et al.

al., the inventions describing an interface that presents or exhibits a force signal to an operator, or receives a force signal from an operator. The present invention generates a signal representative of force utilizing: reception of a signal representative of a location of a user reference point relative to a user reference frame; a geometrical model storing: a representation of a non-local reference frame, a user reference in relation to the non-local reference frame, and a conformation of a non-local environment comprised of a spring-type element relative to the non-local reference frame; comparing the location of the user reference point relative to the non-local environment; and a force generator for generating a signal representative of a force based on the location of the user reference point relative to the non-local environment and at least one force rule. This patentable distinction is included in independent claims nos. 64 and 73.

Independent claim 76 is directed to a force reflecting haptic interface, of the present invention, which utilizes an electro-mechanical device with an actuator that includes an encoder, for generating output force and position signal. The art of record, either individually or in combination, fails to teach, suggest, or render obvious the useful, concrete and tangible < generation of a signal representative of force > having the corresponding structure which is disclosed in the specification and equivalents thereof (at least at <page 12, line 11 through page 47, line 12, and Figures 1-13>). In view of the foregoing, the claims of the present application are found to be patentable over the prior art.

### ***Response Guidelines***

5. Any comments considered necessary by applicant **MUST** be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the

In re Application of: MASSIE et al.

Issue Fee. Such submissions should clearly be labeled "Comments on Statement of Reasons for Allowance".

**6. Any response to the Examiner in regard to this allowance should be**

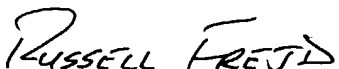
**directed to:** Russell Frejd, telephone number (703) 305-4839, Monday-Friday from 0530 to 1400 ET, **or** the examiner's supervisor, Jean Homere, telephone number (703) 308-6647. Any inquiry of a general nature should be directed to the Tech Center 2100 receptionist, telephone number (703) 305-3900. The TC 2100 Customer Service telephone number is (703) 306-5631.

**mailed to:** Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:** (703) 872-9306

*Hand-delivered responses should be brought to 220 South 20<sup>th</sup> Street, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA., 22202).*

**Date:** 2-September-2004

  
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**RUSSELL FREJD  
PRIMARY EXAMINER**